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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,911	11/13/2001	Toshihide Ibaraki	107292-00030	6650

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EXAMINER	
JARRETT, RYAN A	
ART UNIT	**PAPER NUMBER**
2125	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/986,911	IBARAKI ET AL.	
	Examiner	Art Unit	
	Ryan A. Jarrett	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) *See Continuation Sheet* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-25,58,59 and 97* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 6,7,11-15,17,19,20,22-25,27-40,42-46,58,59,61,62,64,65 and 67-97.
Continuation of Disposition of Claims: Claims withdrawn from consideration are 6,7,11-15,17,19,20,27-40,42-46,61,62,64,65 and 67-96.

DETAILED ACTION

1. Claims 6-7, 11-15, 17, 19-20, 22-25, 27-40, 42-46, 58-59, 61-62, 64-65, 67-97 are pending in the application.

Claims 6-7, 11-15, 17, 19-20, 27-40, 42-46, 61-62, 64-65, and 67-96 have been previously withdrawn from consideration as being directed to a non-elected invention.

Claims 22-25, 58, 59, and 97 are presented for examination below.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Additionally, receipt is acknowledged of the verified translation of priority document JP 2000-345417, submitted on 11/17/2006.

Specification

3. The disclosure is objected to because of the following informalities:

On page 3 line 16, it appears that "printed circuit board 8" should be changed to "printed circuit board 6".

On page 3 line 17, it appears that "printed circuit board 8" should be changed to "printed circuit board 6".

On page 8 line 15, it appears that "right unit 20R" should be changed to "right unit 22R".

On page 9 line 14, it appears that "X-direction" should be changed to "Y-direction" and "Y-direction" should be changed to "X-direction".

On page 10 line 8, the term "lasses" appears misplaced. Correction is required.

Appropriate correction is required.

Drawings

4. It appears that Figures 1-9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see pages 2-9 of the specification). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 23, there is no support in the specification for "wherein the number of scanning or moving said working means and the number of moving the stage are weighted depending on *difference in scanning time as compared to moving time*" (emphasis added).

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "that time" in line 4. There is insufficient antecedent basis for this limitation in the claim. Does this time refer to the time of setting the distance of the working units?

Claim 24 recites the limitation "the time" in line 7. There is insufficient antecedent basis for this limitation in the claim. Does this time refer to the time of setting the distance of the working units?

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 24-25, 59, and 97 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are generally directed to an abstract idea (§101 judicial exception). For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea. Diehr, 450 U.S. at 187, 209 USPQ at 8; Benson, 409 U.S. at 71, 175 USPQ at 676.

To satisfy section 101 requirements, the claim must be for a practical application of the §101 judicial exception, which can be identified in various ways: (1) The claimed invention "transforms" an article or physical object to a different state or thing, or (2) The claimed invention otherwise produces a useful, concrete and tangible result.

In the present case, the final results associated with claims 24-25, 59, and 97 do not "transform" an article or physical object to a different state or thing.

For eligibility analysis, physical transformation "is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application." AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. In determining whether the claim is for a "practical application", the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete".

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of that §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application"). "[A]n application of a law of nature or mathematical formula to a ... process may well be deserving of patent protection." Diehr, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also Corning, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted..."). In other words, the opposite meaning of "tangible" is "abstract".

In the instant case, the final result achieved by claim 24 is merely "calculating". This abstract results fail to provide the required "real-world result" that satisfies the "tangible result" requirement. The final result achieved by claims 25, 59, and 97 is "employing a workpiece direction". This also appears to amount to nothing more that some sort of non-tangible calculation or determination operation.

Where the final result of a claimed invention is what has been determined, calculated, selected, decided, employed, etc. without using what has been determined, calculated, selected, decided, employed, etc. in a disclosed practical application or at least making what has been determined, calculated, selected, decided, employed, etc. available for use through some form of conveyance (e.g., display, print, sound,

transmission, etc.) or at least temporary storage somewhere, then a tangible result has not been achieved.

Although claim 59 is directed to a "device", it is noted that machines, processes and, by logical extension, instructions carried by computer readable media or carrier signals that perform or would perform a method that constitutes solely an abstract concept do not manifest a "practical application" required for being a statutory claim.

It is noted that the "weighting" operation of claim 23 can be considered non-tangible as well. However, this is not considered the final result of the claim since this "weighting" step is considered a part of the "determining" step of claim 22. Therefore, claim 23 has not been rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 22 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-149317 (provided by Applicant).

For example, JP 11-149317 discloses:

22. A working method in simultaneously working on a workpiece placed on a movable stage by a plurality of working units capable of scanning or moving working means within a working area, said method comprising the steps of:

determining a distance between the working units (e.g., abstract: "the main controller 50 decides the relative position relation of the first and second heads 30A and 30B in accordance with the distribution state of the fuses") **so that a number of scanning or moving the working means or a number of moving the stage is minimized** (e.g., abstract: "The main controller 50 decides the inter-chip optimum route connecting all the chips 2...being the work objects and the optimum route connecting all fuse blocks in the chips 2 while the position relation of the heads 30A and 30B is maintained"); **and working on a workpiece based on a result of said determining** (e.g., abstract: "at the time of a laser work processing").

58. A working planning device for planning working in working on a workpiece placed on a movable stage simultaneously using a plurality of working units capable of scanning working means in a working area, comprising,

unit distance determining means for determining a distance of the working units (e.g., abstract: "the main controller 50 decides the relative position relation of the first and second heads 30A and 30B in accordance with the distribution state of the fuses") **so that a number of scanning or moving the working means or a number of moving the stage is minimized** (e.g., abstract: "The main controller 50 decides the inter-chip optimum route connecting all the chips 2...being the work objects and the optimum route connecting all fuse blocks in the chips 2 while the position relation of the heads 30A and 30B is maintained"); **and**

output means for providing a plan to be used for working on a workpiece (e.g., Figs. 14-16 and 18),

wherein, if the unit distance determining means and the output means are implemented in software, the software is embodied on a computer readable medium (e.g., Fig. 1).

Allowable Subject Matter

13. Although the prior art of record does not appear to disclose the features of claims 23-25, 59, or 97, any potential indication of allowable subject matter regarding claims 23-25, 59, or 97 is being held in abeyance pending correction of the outstanding 35 U.S.C. 101, 35 U.S.C. 112 1st paragraph, and 35 U.S.C. 112 2nd paragraph rejections noted above.

Response to Arguments

14. Applicant's arguments, see page 24, filed 11/17/2006, with respect to rejection of claims 58-59 under 35 U.S.C. 112 1st paragraph (enablement requirement) have been fully considered and are persuasive. The rejection of claims 58-59 under 35 U.S.C. 112 1st paragraph (enablement requirement) has been withdrawn in light of the amendment to the claims.

15. Applicant's arguments, see pages 25-27, filed 11/17/2006, with respect to rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 112 2nd paragraph have been fully considered and are mostly persuasive. Most all of the rejections of claims 22-25, 58-59, and 97 under 35 U.S.C. 112 2nd paragraph have been withdrawn. However, certain rejections of claim 24 remain. The antecedent basis issues with respect to the terms "that time" and "the time" have not been addressed.

16. Applicant's arguments, see page 27, filed 11/17/2006, with respect to rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 101 have been fully considered and some of them are persuasive. The rejections of claims 22, 23, and 58 under 35 U.S.C. 101 (tangibility requirement) have been withdrawn in light of the amendment to claims 22 and 58. Additionally, the rejection of claims 58-59 under 35 U.S.C. 101 (as being directed to software "per se") has been withdrawn in light of the amendment to claim 58. However, outstanding 35 U.S.C. 101 rejections (tangibility requirement) remain with

respect to claims 24-25, 59, and 97, as these issues were not addressed by amendment or by argument.

17. Applicant's arguments, see pages 28-29, filed 11/17/2006, with respect to the rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 102(b) as being anticipated by JP 11-149317 have been fully considered but are not persuasive.

Applicant argues that the abstract of JP 11-149317 does not disclose or suggest "determining a distance between the working units so that a number of scanning or moving the working means or a number of moving the stage is minimized". However, the abstract of JP 11-149317 discloses, "the main controller 50 decides the relative position relation of the first and second heads 30A and 30B in accordance with the distribution state of the fuses". So it is clear that JP 11-149317 discloses "determining a distance between the working units" as recited by claim 22. Furthermore, JP 11-149317 discloses that this distance determination is made "to decide the optimum route at the time of laser work processing", i.e., the minimum distance route that minimizes the number of moving the heads or stage. The claimed "minimized" corresponds to the "optimized" of JP 11-149317.

18. Applicant's arguments, see pages 29-30, filed 11/17/2006, with respect to the rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 102(b) as being anticipated by EP 0525497 have been fully considered and are mostly persuasive.

Examiner does not agree that EP 0525497 does not mention minimizing any particular number, as argued by the Applicant. EP 0525497 discloses an algorithm that can be used to help minimize the movement distance of the laser beam, as admitted by the Applicant. Examiner asserts that minimizing the movement distance of the laser beam constitutes minimizing the number of moving the laser beam.

Nevertheless, EP 0525497 does not appear to disclose "determining a distance between the working units so that a number of scanning or moving the working means or a number of moving the stage is minimized". Therefore, the rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 102(b) as being anticipated by EP 0525497 has been withdrawn.

19. Applicant's arguments, see pages 30-31, filed 11/17/2006, with respect to the rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 102(a) as being anticipated by JP 2001-195112 A have been fully considered and are persuasive. The rejection of claims 22-25, 58-59, and 97 under 35 U.S.C. 102(a) as being anticipated by JP 2001-195112 A has been withdrawn in light of the verified translation of priority document JP 2000-345417 submitted on 11/17/2006.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

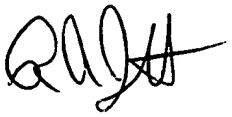
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ryan A. Jarrett
Examiner
Art Unit 2125



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